

REMARKS

Information Disclosure Statement

Pursuant to 37 C.F.R. § 1.98(b), an Information Disclosure Statement is submitted herewith which includes English abstracts, as required by the Examiner. Acknowledgment of the receipt of listed documents is respectfully requested.

Claim Rejections

Applicant thanks the Office for the attention accorded the present Application in the January 16, 2007, Office Action. Claims 1-20 are pending in this application.

Claims 1-9 and 17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant's Admitted Prior Art (US 2004/0081255; hereinafter AAPA) in view of Orr et al. (US 2002/0150068) in further view of Goodwin et al. (US 4725844). Claims 10-12 and 18 are rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Orr in view of Goodwin in further view of Vannatta et al. (US 6421379). Claim 16 is rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Orr in view of Goodwin in further view of Mita et al. (US 4628297). Claims 13-15 and 19-20 are objected to as being dependent upon a rejected base claim.

Drawings

Applicant has amended Figures 1 and 2, as illustrated on the attached replacement sheet, accompanied by a LETTER TO THE OFFICIAL DRAFTSPERSON. Figures 1 and 2 have been amended to be labeled "Prior Art" as required by the Examiner. No "new matter" has been added to the original disclosure by the amendments to these figures. Entry of the corrected replacement sheet is respectfully requested.

Claim Amendments

By this Amendment, Applicant has amended claim 17 of this application to overcome the Examiner's objection thereto. Applicant now submits that the amended claims specifically set forth each element of Applicant's invention in full

compliance with 35 U.S.C. § 112. Applicant also thanks the Examiner for noting allowable subject matter, but believes the pending claims define subject matter that is patentably distinguishable over the cited prior art, taken individually or combined, without further amendments. Furthermore, Applicant does not acquiesce in the correctness of the rejections and reserves the right to present specific arguments regarding any rejected claims not specifically addressed. Further, Applicant reserves the right to pursue the full scope of the subject matter of the claims in a subsequent patent application that claims priority to the instant application.

35 U.S.C. §103(a) rejections based on AAPA, Orr, and Goodwin

The Office rejects claims 1-9 and 17 under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Orr and Goodwin. Applicant traverses this rejection.

In claim 1 of this invention, the filtering apparatus is included in an 8PSK system. FIG. 3 clearly depicts an embodiment of the 8PSK system according to claim 1. The filtering apparatus 20 is used for filtering a second vector transmitted from $3\pi/8$ phase shift module 12 to generate a modulation signal. Further, in filtering apparatus 20, a $\pi/16$ phase shift module 13, a weight distribution module 33, and a combination module 3 are included. In comparison, neither AAPA, Orr, nor Goodwin teach the filtering apparatus in an 8PSK system.

As admitted by the Examiner on p. 4 of the outstanding Office Action, AAPA does not teach, inter alia, Applicant's recited weight distribution module and combination module.

Instead, the vote allocation processor 26 in FIG. 2 of Orr is used for determining plural weighting coefficients (Orr, [0045]). In the weight and sum block 22, the signal C_i is multiplied by the weighting coefficient V_i . Subsequently, in the SGN block 24, the sign (positive or negative) of the summation of the weighted signals $V_i C_i$ becomes the value of a composite signal C (Orr, [0044]). Using a constant-envelope modulation scheme (e.g., PSK or FSK), a carrier will be encoded with the value of the composite signal C and transmitted (Orr, [0044]).

The weight and sum block 22 in Orr does calculate the summation of plural weighted signals. However, Orr does not teach a $\pi/16$ phase shift module that

generates a third vector based on a second vector transmitted from a $3\pi/8$ phase shift module. Accordingly, none of the blocks in FIG. 2 of Orr can be used for determining, based on the third vector, which weight distribution waveforms should be selected.

Furthermore, since the composite signal C generated by the SGN block 24 will be modulated by PSK or FSK, the composite signal C is not the modulation signal recited in claim 1. The modulation signal according to Applicant's invention is an output instead of an input for an 8PSK system.

Obviously, the "majority logic apparatus" shown in FIG. 2 of Orr is completely different from the filtering apparatus according to this invention. Moreover, even a $\pi/16$ phase shift module is disclosed in Goodwin, the combination of a $\pi/16$ phase shift module with the "majority logic apparatus" in Orr is still different from the filtering apparatus according to this invention.

Accordingly, Applicant submits that AAPA, Orr, and Goodwin do not render claim 1 obvious. Similarly, the arguments set forth in the above regarding to claim 1 also apply to claim 17. Based on the aforementioned arguments, Applicant respectfully requests withdrawal of the rejections of claims 1 and 17.

Applicant submits that the dependent claims 2-12, 16 and 18 not specifically addressed herein are allowable for the reasons discussed in pertinent portions associated with their independent claims 1 and 17, as well as for their own additional features. Applicant respectfully requests withdrawal of the rejections. Reconsideration of claims 1-20 is respectfully requested.

It follows that even if the teachings of AAPA, Orr, and Goodwin were combined, as suggested by the Examiner, the resultant combination does not suggest: a filtering apparatus in an 8 Phase Shift Keying (8PSK) system, the 8PSK system being utilized for encoding a series of digital bits to output a plurality of corresponding modulation signals, the 8PSK system comprising: a Gray mapping module for mapping a set of every 3 digital bits into a corresponding first vector by a predetermined mapping process; a $3\pi/8$ phase shift module for shifting the phase of the first vector from the Gray mapping module to generate a corresponding second vector by a predetermined phase shift process; and a filtering apparatus for filtering the second vector from the $3\pi/8$ phase shift module to generate one

corresponding modulation signal out of the plurality of modulation signals; the filtering apparatus further comprising: a $\pi/16$ phase shift module for further shifting the second vector from the $3\pi/8$ phase shift module with $\pi/16$ radians to generate a corresponding third vector; a weight distribution module for distributing a plurality of selected weights to a predetermined distribution waveform and for storing a plurality of corresponding weighted distribution waveforms; and a combination module, according to the third vector, for determining which weight distribution waveforms to be selected from the weight distribution module and combining the selected weighted distribution waveforms to generate the modulation signal.

Nor does the combination suggest: a filtering method in an 8 Phase Shift Keying (8PSK) system, the 8PSK system being utilized for encoding a series of digital bits to output a plurality of corresponding modulation signals, the 8PSK system comprising: a Gray mapping module for mapping a set of every 3 digital bits into a corresponding first vector by a predetermined mapping process; a $3\pi/8$ phase shift module for shifting the phase of the first vector from the Gray mapping module to generate a corresponding second vector by a predetermined phase shift process; and a filtering apparatus for filtering the second vector from the $3\pi/8$ phase shift module to generate one corresponding modulation signal out of the plurality of modulation signals; the filtering method further comprising: shifting the second vector from the $3\pi/8$ phase shift module with $\pi/16$ radians to generate a corresponding third vector; distributing a plurality of selected weights to a predetermined distribution waveform to generate a plurality of corresponding weighted distribution waveforms and being stored in a weight distribution module; and according to the third vector, determining which weight distribution waveforms to selected from the weight distribution module and combining the selected weighted distribution waveforms to generate the modulation signals.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over

40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the

teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either AAPA, Orr, or Goodwin that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither AAPA, Orr, nor Goodwin disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's amended claims.

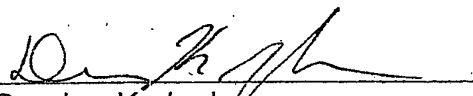
Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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